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| EXAMINER | |
|---|---|
| WOODWARD, CHERIE MICHELLE | |
| ART UNIT | PAPER NUMBER |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/566,428 | HUBERT ET AL. | |
| | Examiner | Art Unit | |
| | CHERIE M. WOODWARD | 1647 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *4/9/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3 and 5-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. Applicant's Response and Amendments, filed 4/9/2008, are acknowledged and entered. Claim 4 is cancelled by Applicant. Claims 1-3 and 5-9 are pending and under examination.

### *Response to Arguments*

### *Claim Objections/Rejections Withdrawn*

2. Rejections and objections directed to claim 4 are withdrawn as moot in light of Applicant's cancellation of claim 4.

3. The objection to claim 9 because of informalities is withdrawn in light of Applicant's amendments to claim 9.

4. The rejection of claim 8 under 35 U.S.C. 101 is withdrawn in light of Applicant's amendments.

5. The rejection of claims 1-3 and 7 under 35 U.S.C. 102(b) as being anticipated by Ferrari et al., US Patent 6,355,270 (12 March 2002), are withdrawn in light of Applicant's amendment.

### *Claim Objections/Rejections Maintained*

### *Claim Rejections - 35 USC § 112, Second Paragraph*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 8 remains rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: any manufacturing steps. The preamble of the claim recites a "method of manufacture" but the "utilizing" step is drawn to a method of treatment. No steps directed to a method of manufacture (i.e. read as a method of making a composition) are recited). A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

### *Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3, 5-7, and 9 remain rejected under 35 U.S.C. 102(a/e) as being anticipated by Thormar et al., US Patent 6,596,763 (22 July 2003, benefit to 16 December 1999), for the reasons of record and the reasons set forth herein.

Applicant argues that the '763 composition fails to disclose a composition at a pH of 6 or less (Remarks, p. 6, second paragraph). Applicant argues that the pH levels taught in Figure 3 discloses the pH of receiver fluid on the release profile of monocaprin (a lipid) from the formulation (Remarks, p. 6, second paragraph). Applicant's argument have been fully considered, but they are not persuasive.

The '763 patent teaches that pH modifiers may be used to adjust the pH to the desired pH level (column 14, lines 18-23). The pH of the hydrogel at a value near pH 5.0 (which is well within the range of pH 6 or less) is taught at column 18, line 66 (compare instant claims 1, 5, and 6). The fact that Figure 3 focuses on the release of monocaprin as a specific indicator at different pH levels does not negate the fact that the Figure teaches the composition at the different pH levels that are within the claimed range. Moreover, Applicant's claims use the transitional language "comprising" and as such, the claims must be read in their broadest reasonable interpretation as also comprising ingredients in addition to those specifically recited.

***New Claim Rejections – Necessitated by Amendment***

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 2 is rejected in addition to claims 1, 3, 5-7, and 9 under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,596,763 (22 July 2003, benefit to 16 December 1999) (previously cited of record) and Jacob et al., US Patent Application Publication 2003/0060486 (27 March 2003).

The Examiner finds the following facts:

a. The instant claims are drawn to a mucoadhesive pharmaceutical composition comprising an acrylic acid containing polymer in the form of a hydrogel and a chemoattractant wherein the pH of the composition is 6 or less; wherein the chemoattractant is GM-CSF (as elected).

b. The '763 patent teaches biocompatible compositions comprising acrylic polymers, such as polyacrylic acids and polymethacrylates (column 6, lines 25-26; claim 1 and 22) (compare instant claim 1). Suitable agents in the composition which counteract the adsorption of virus to cells are copolymers of acrylic acid and chemokines (in a preferred embodiment) (column 14, lines 41-49) (compare instant claim 1). The '763 patent teaches formulations comprising polymers in the form of hydrogels (abstract; column 4, line 11; claims 1, 22, 23 and 32) (compare instant claim1). Figure 3 teaches the composition at a pH of 4.0, 5.0, and 6.0 (compare instant claims 1, 5, and 6). pH modifiers may be used to adjust the pH to the desired pH level (column 14, lines 18-23). The pH of the hydrogel at a value near pH 5.0 (which is well within the range of pH 6 or less) is taught at column 18, line 66 (compare instant claims 1, 5, and 6). Polycarbophil is taught at column 6, line 40 (see also, claim 23) (compare instant claim 3). Treatment of the genital mucosa is taught at column 5, line 19 (see also, claim 96) (compare instant claims 7 and

9). Formulations for treating mucosal infections are taught throughout (abstract; claim 96) (compare instant claim 9)

c. The '763 patent does not teach GM-CSF as the chemoattractant.

d. The '486 publication teaches composition comprising polyacrylic acid hydrogels and methods of manufacture of stable, viscous, mucoadhesive liquid and mucoadhesive gel formulations, and the use of these compositions to coat mucocutaneous surfaces to prevent and/or treat mucosal diseases and disorders, including those which are ulcerative, inflammatory, and/or erosive (paragraphs 2 and 24) comprising GM-CSF (paragraph 19) (compare instant claim 2).

e. A person of ordinary skill in the art at the time the invention was made would have reasonably known that GM-CSF was a species of chemokine, as evidenced by the teachings of the '486 publication (paragraph 19).

f. "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

In view of the facts recited above, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the prior art elements according to known methods to yield predictable results. The prior art teaches all of the limitations of the claimed invention. The '763 patent teaches hydrogels comprising polycarbophil and chemoattractants (chemokines/cytokines) wherein the pH of the composition is 6 or less, for use in mucosal therapies. The '763 patent does not teach the species of GM-CSF as the chemoattractant/chemokine/cytokine. The person of ordinary skill in the art could have combined the elements as claimed by known methods to produce a hydrogel composition comprising the chemokine GM-CSF (compare instant claim 2). One of skill in the art would have recognized that the results of the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time the invention was made. This is demonstrated by the fact that the '763 patent teaches a preferred embodiment comprising chemokines and the '486 publication teaches GM-CSF as the chemokine for a composition useful for the same purpose. "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art."

In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted) (Claims to a process of preparing a spray-dried detergent by mixing together two conventional spray-dried detergents were held to be prima facie obvious.). See also In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960) (Claims directed to a method and material for treating cast iron using a mixture comprising calcium carbide and magnesium oxide were held unpatentable over prior art disclosures that the aforementioned components individually promote the formation of a nodular structure in cast iron.); and Ex parte Quadranti, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992) (mixture of two known herbicides held prima facie obvious).

It is noted that claim 7 recites the composition of claim 1 and an intended use. A composition claim with an intended use is not further limiting where the art anticipates the composition (see In re Sinex, 309 F.2d 488, 492, 135 USPQ 302, 305 (CCPA 1962) (statement of intended use in an apparatus claim did not distinguish over the prior art apparatus). In the instant case, the composition of claim 1 is capable of performing the intended use as a treatment (see the '763 patent, column 5, line 19).

***Claim Rejections - 35 USC § 112, First Paragraph***

***Written Description***

14. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

15. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection, rather than an enablement rejection under 35 U.S.C. 112, first paragraph. Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

The preamble of the claim recites a "method of manufacture" but the "utilizing" step is drawn to a method of treatment. There is no description of how to manufacture a medicament for the claimed intended purpose. Claim 8 refers to claim 1 insofar as "utilizing the composition according to claim 1." However, utilizing the composition of claim 1 does not adequately describe how to make the claimed composition in the method of manufacture, which is that is claimed in claim 8.

*Vas-Cath Inc. V. Mahurkar*, *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 19 USPQ2d 1111, (Fed. Cir. 1991), states that Applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention, for purposes of the written description inquiry, is whatever is now claimed (see page 1117). The claimed subject matter must be described in the specification to ensure that applicant had in his possession, as of the filing of the application, the specific subject matter claimed. See *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). A disclosure in an application, to be complete, must contain such description and details as to enable any person skilled in the art or science to which the invention pertains to make and use the invention as of its filing date. *In re Glass*, 492 F.2d 1228, 181 USQ 31 (CCPA 1974). Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. 112 is severable from its enablement provision (see p. 1115).

***Claim Rejections - 35 USC § 112, First Paragraph***

***Enablement***

16. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

17. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The factors considered when determining if the disclosure satisfies the enablement requirement and whether any necessary experimentation is undue include, but are not limited to: 1) nature of the invention, 2) state of the prior art, 3) relative skill of those in the art, 4) level of predictability, 5) existence of working samples, 6) breadth of claims, 7) amount of direction or guidance by the inventor, and 8) quantity of experimentation needed to make or use the invention. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

The claim recites a method of manufacturing a medicament for use in the treatment of a squamous mucosa or in the treatment of an angiogenital or oral disease or against human papilloma virus comprising the steps of utilizing the composition according to claim 1. No manufacturing steps are taught. The only ingredients of the medicament that are taught, are taught in claim 1, being an acrylic

acid containing polymer in the form of a hydrogel and a chemoattractant, wherein the pH of the composition is 6 or less GM-CSF as a chemoattractant is taught throughout the specification, but there is no guidance in the specification as to the method of manufacture of any medicament. Without some kind of guidance or teaching, a person of ordinary skill in the art would not reasonably be able to understand how to make or use the claimed method of manufacture of a medicament without undue experimentation. The manufacture of a medicament would be entirely unpredictable given the lack of guidance/teaching in the claims or the specification as filed.

Due to the large quantity of experimentation necessary to determine how to make or use the claimed manufacture of a medicament, the lack of direction/guidance presented in the specification regarding same, the absence of sufficient working examples directed to same, the complex nature of the invention, and the breadth of the claims which fail to recite any manufacturing steps, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention.

18. As a reminder to Applicant, the listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Conclusion***

NO CLAIM IS ALLOWED.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHERIE M. WOODWARD whose telephone number is (571)272-3329. The examiner can normally be reached on Monday - Friday 9:00am-5:30pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manjunath N. Rao can be reached on (571) 272-0939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CMW/
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